SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 4 | April 2026 - Peer Reviewed Journal

A STUDY ON IMPLEMENTATION AND IMPACT OF ARTIFICIAL INTELLIGENCE (AI) ON HUMAN RESOURCES IN AUTOMOTIVE COMPANY IN COIMBATORE

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ABSTRACT

Artificial Intelligence (AI) is transforming organizational functions, particularly in the field of Human Resource Management (HRM). This study focuses on the implementation and impact of AI on HR practices in automotive companies in Coimbatore. The primary objective is to examine how AI technologies influence key HR functions such as recruitment, training and development, performance management, and employee engagement.

The research adopts a descriptive and analytical approach, using both primary and secondary data. Primary data was collected through structured questionnaires and interviews with HR professionals and employees, while secondary data was gathered from journals, reports, and relevant literature. The study analyzes the level of AI adoption and evaluates its effectiveness in improving efficiency, accuracy, and decision-making in HR processes.

The findings indicate that AI significantly enhances HR operations by reducing manual effort, improving recruitment quality through data-driven selection, and enabling better employee performance tracking. However, challenges such as lack of technical expertise, high implementation costs, and concerns over job displacement are also identified.

KEYWORDS: *Artificial Intelligence (AI), Human Resource Management (HRM), Automotive Industry, Recruitment, Employee Engagement, Performance Management, Automation, Coimbatore*

INTRODUCTION

The implementation of AI in HR brings undeniable opportunities. It enhances efficiency by automating repetitive tasks, supports data-driven decision-making, and improves employee experience through personalization. It also enables organizations to anticipate skill gaps and prepare employees for future roles, fostering adaptability in a rapidly changing industry.

However, these benefits are accompanied by challenges that cannot be overlooked. Concerns about job displacement arise as automation reduces the need for certain administrative roles. Ethical issues, such as bias in AI-driven recruitment or surveillance concerns in employee monitoring, demand careful consideration. Moreover, the need for reskilling employees to work alongside AI systems requires significant investment in training and change management. Cultural resistance may also emerge, as employees fear loss of autonomy or privacy in an AI- driven workplace.

The study of AI's implementation and impact on HR in the automotive industry is therefore both timely and essential. It provides insights into how organizations can harness AI to enhance efficiency while safeguarding human values. By examining the dual nature of AI its potential to empower and its risks of disruption this research contributes to a deeper understanding of how technology and human resources can coexist in a balanced, sustainable manner. Ultimately, the integration of AI into HR practices is not just about adopting new tools; it is about redefining the relationship between people and technology in one of the world's most dynamic industries.

STATEMENT OF THE PROBLEM

The automotive industry is experiencing a profound transformation driven by artificial intelligence (AI). While AI has been widely adopted in areas such as manufacturing, supply chain optimization, and product innovation, its integration into human resource management remains relatively underexplored

Recruitment processes are still prone to delays and biases, training programs often fail to meet the evolving skill requirements of employees, and performance evaluations may lack objectivity. AI offers solutions to these challenges by automating routine tasks, analysing workforce data, and providing predictive insights. However, its adoption also raises significant concerns, including job displacement, ethical issues related to bias and privacy, and the need for continuous reskilling of employees.

OBJECTIVES

1. To examine the implementation of AI in HR functions within the automotive industry, focusing on recruitment, training, performance management, and employee engagement.

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2. To analyze the benefits of AI adoption in HR, such as efficiency gains, data-driven decision-making, and improved employee experience.

RESEARCH METHODOLOGY

This study adopts a descriptive and analytical research design to examine the implementation and impact of Artificial Intelligence (AI) on Human Resource (HR) functions in automotive companies in Coimbatore. The research is both quantitative and qualitative in nature, aiming to understand the extent of AI adoption and its influence on HR practices such as recruitment, training, performance management, and employee engagement. Primary data is collected through structured questionnaires and interviews with HR professionals and employees, while secondary data is gathered from journals, reports, and relevant academic sources.

A convenience sampling method is used to select respondents from automotive companies in Coimbatore, with a sample size ranging between 100 and 150 participants. The collected data is analyzed using statistical tools such as percentage analysis, mean, and correlation to interpret the impact of AI on HR outcomes. The study considers AI implementation as the independent variable and HR efficiency and effectiveness as dependent variables. Limitations include restricted geographical coverage, time constraints, and possible respondent bias.

TOOLS USED

The study uses surveys and interviews to collect primary data from HR professionals and employees, along with case studies and document analysis for secondary data. Analytical tools such as machine learning models and Natural Language Processing (NLP) are applied to study HR outcomes like attrition and employee feedback. Chatbots and virtual assistants are also examined to understand their role in recruitment and employee engagement.

DATA ANALYSIS AND INTERPRETATION

TABLE 1- Gender Status of the respondents

Gender	No of the Respondents	Percentage
Male	78	65.2
Female	47	34.8
Total	125	100.0

Source: Primary Data

Interpretation

The analysis of Gender shows that,34.8 per cent of respondents are female and 65.2 per cent of respondents are male.

TABLE 2 - Designation of Respondents

Designation	No of the respondents	Percentage
HR Executive	31	24.6
HR Manager	72	42.8
Senior HR/ HRBP	15	18.8
Administrative/ Technical HR Support	8	13.8
Total	125	100.0

Source: Primary Data

Interpretation

The majority of respondents are HR Managers, followed by HR Executives, with smaller proportions of Senior HR/HRBP and Administrative/Technical HR Support.

TABLE 3- AI tools/technologies used in HR

AI Tools	No of the respondents	Percentage
Chatbot	21	16.7
Resume screening automation	27	22.5
Predictive analytics	27	22.5
Learning & development AI System	45	31.2
Workforce Planning Tools	5	7.2
Total	125	100

Source: Primary Data

Interpretation

Most respondents use Learning & Development AI systems, while fewer use chatbots and workforce planning tools.

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TABLE 4 - Benefits of implementing AI in Human Resources (HR)

Particulars	Rank (1-Highest, 5-Lowest)					Total
	1	2	3	4	5	
Improved Recruitment Efficiency	66	15	27	14	13	125
Enhanced Workforce Planning	21	60	27	20	7	125
Reduced Administrative Burden	45	20	39	21	11	125
Better Employee Engagement	26	39	32	29	11	125
Cost Savings	27	42	27	18	23	125

Source: Primary Data

Interpretation

All benefits including recruitment efficiency, workforce planning, reduced admin work, employee engagement, and cost savings are rated equally important overall. Recruitment efficiency and reduced admin work are ranked highest more often, while cost savings and engagement appear more in middle or lower ranks.

CONCLUSION

The study on the implementation and impact of Artificial Intelligence in Human Resources in the automotive industry reveals that AI is playing an important role in improving HR practices. The findings show that AI helps organizations in recruitment, employee performance evaluation and workforce planning. Artificial Intelligence also reduces administrative workload and helps HR professionals focus more on strategic decision making. The results indicate that AI improves efficiency and productivity in HR departments. However, organizations must provide proper training and ensure data security while implementing AI technologies. By effectively utilizing Artificial Intelligence, automotive companies can enhance their HR functions, improve employee management and achieve better organizational performance. The adoption of AI in HR will continue to grow and play a vital role in the future development of the automotive industry.

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16. *Early conceptual studies (2010) explored the potential of AI in HR functions within the automotive industry.*